Research Fronts are often recognized as the most promising emerging research areas or research topics in a period, which have been paid much attention by research funding departments, research managers and researchers. The question “What innovations are being addressed in research fronts and follow-up studies?” is one of the concerns of research fronts users.

The expression of “innovation value stage” is considered as a staged division and classification of the value and function of basic scientific research in the process of knowledge innovation. It can further expand the bibliometric analysis from grammatical and semantic to pragmatic.

Indexing of innovation value stage
- indexing themes are determined by literature research and expert consultation.
- indexed from the three structural fields of title, abstract and keyword.
- indexing method adopts automatic word-indexing.

Innovation value stage indexes
- the scores are scored according to the position of the indexing words (keyword 4 points, title 2 points, summary 1 point), and the scores of each value stage of each paper are calculated separately, finally, the value stage which has the maximum value is taken as the value stage of the paper.

Theme identification of the of innovation value stages
- extracting sentences where the indexed words are located in the abstract, natural language processing, phrase cleaning, expert interpretation.

The corresponding empirical research is carried out with the research front of "CH₃NH₃PbI₃ perovskite solar cells and inorganic transport materials."